Proment – project management

Proment *a world leader in the manufacturing of tooling and equipment for mass production automated facilities.*

Over 40 years of experience and expertise in the production of tools, dies, and a variety of heavy duty 4-160 tons compacting presses , with emphasis on the Powder Metallurgy (PM) industry.

*Our experience allows us to develop, design and **quickly** bring to market, the most innovative and **cost effective** state of the art equipment.*

PROMENT
PROJECTS MANAGEMENT
- PHP12-SRC-5X -

We take your manufacturing challenge and turn it to a working solution.

Our new customized S700 - Powder Compacting Hydraulic Press (PHP) is designed and assembled to meet and exceed most of performance parameters & requirements set forth by the customers and market leading companies:

The new Proment PHP is the world only system of kind possessing so many features and unique advantages:

Special Features:

1) **Flexible Programmer™** – Fully integrated software programs, **PromentPro II©** and **PromentPro SM II ©**, enable the user to program any desired process parameters recipes and run verification simulation testing. This programmer is installed on a remote computer that could be placed in secured location. Programming modifications can be done on line and easily backed up on the remote computer.
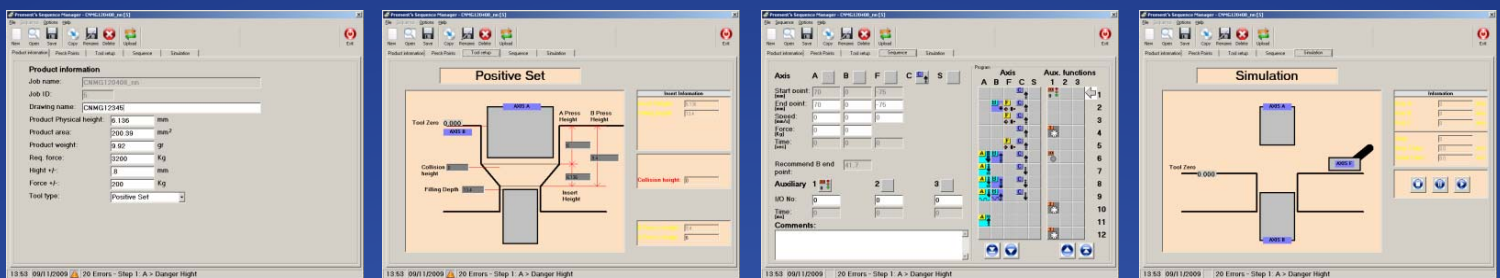

2) **Robot** – Proment PHP could be integrated and supplied with any Robot. Our system uses a dry contact as the communication channel between the PHP and the selected Robot. The user can utilize the commands in our Flexible Programmer™ to integrate and time control the operation of the Robot, or use the Robot as the cycle commencement indicator.

3) **Finished product Automated Stocker** – This **option** feature, is fully integrated with the Robot to make our PHP most productive high quality machine worldwide.

Advantages:

• Life Cycle Cost – Ease of maintenance and state of the art human engineering.
• Shop floor space – Compactness and fully integrated system design
• Energy – Most Sophisticated hydraulic pump and circuit requires only 1/3 power.
• Noise – Lower noise emission due to less required power and strategic insulation.
• Downtime – Semi-Automated Powder re-supply without process interruption.

• Three modes of operation – Tool types in <u>One</u> smart adapter and software.
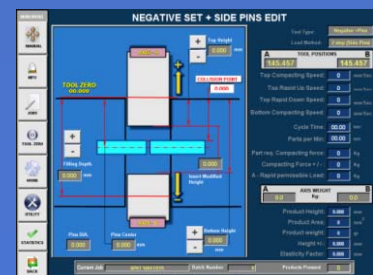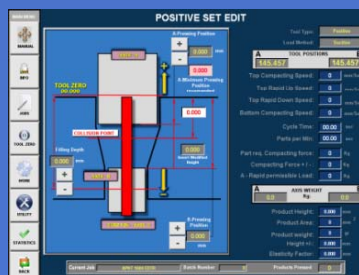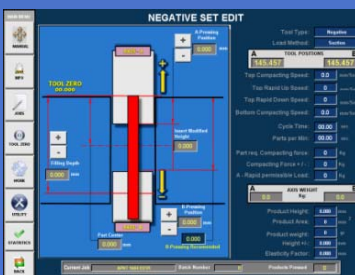
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Our new customized 700 Series - Powder Compacting Hydraulic Press (PHP) features:

Breakthrough smart innovations:

- Communications and Remote Control
- Flexible Programming
- Self Diagnostic system
- Internal No Collision™ software
- Good or Bad Part decision
- Full Flexible Robot / No Robot Interface
- Powder and product estimation
- 7 Human Machine Interactive screens
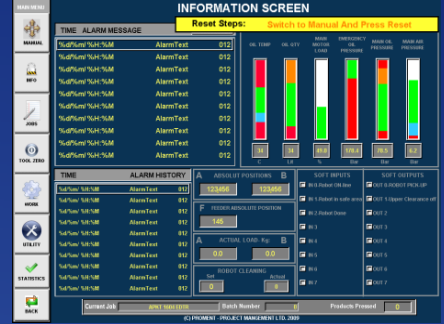
Unique design achievements:

- Any adapter could fit
- Withdrawal or Ejection methods
- Double powder hopper and lifter
- Any powder can be used
- Category 4 Safety rating
- Position accuracy +/- 0.002 mm
- Repeating accuracy +/- 0.002 mm
- Three pressing methodologies:
    1. Position control
    2. Force control
    3. Force increase to position
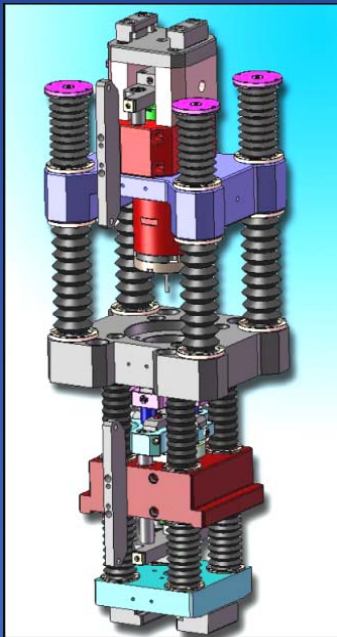
Special capabilities:

- Over 40 years of machine building experience.
- Electric – electronics in-house expertise.
- European grade finish product
- In house production testing and assembly

Inventions:

- Five USPTO & EPO patents are pending in hardware areas.
- Two USCO Copyright Registrations in software areas.

We take your manufacturing challenge and turn it to a working solution.

Technical Specifications

Axes 2- Die side	Measurement	Units
Pressing Force	120	KN
Piston Stroke	100	mm
Piston Diameter	100	mm
Rod Diameter	70	mm
Setting up speed	<2	mm/sec
Repeating Accuracy	+/- 0.0025	mm
Repeating Accuracy using the press with	+/- 0.0015	mm
Piston Speed range	1-200	mm/sec

Axes 3 - Lower Core Rod	Measurement	Units
Pressing Force	6.28	KN
Piston Stroke	50	mm
Piston Diameter	100	mm
Rod Diameter	30	mm
Setting up speed	<10	mm/sec
Repeating Accuracy	+/- 0.01	mm
Piston Speed range	100	mm/sec

Axes 4 - Side Core part of the adapter	Measurement	Units
Pressing Force	12	KN
Piston Stroke	30	mm
Piston Diameter	35	mm
Rod Diameter	20	mm
Setting up speed	<10	mm/sec
Repeating Accuracy	+/- 0.01	mm
Piston Speed range	5-100	mm/sec

Axes 5 - Feeding device with restting	Measurement	Units
Horizontal stroke	250	mm
Volume of feeding Hopper	5	Lit
Feeding Force	600	N
Jacking Force (pneumatic)	400	N

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Overall Speeds	Measurement	Units
Upper punch Rapid speed	200	mm/sec
Upper punch Pressing Speed	<2	mm/sec
Lower die Speed	200	mm/sec
Core Rod speed	100	mm/sec
Filling Shoe speed	500	mm/sec
Number of strokes (at 10mm filling depth)	12	S/min

Hydraulic system	Measurement	Units
Tank Volume	200	Lit
Operating Pressure (Max / Min)	160/15	Bar
Electric Motor	15	HP
Oil accumulator (for safty retract as well)	10	Lit

Water termalizing system (heat exchange unit)	Measurement	Units
Temperature of in going cooling water	10-20	C
Temperature of out going cooling water	18-30	C
Flow rate	15-20	Lit/min
Connection Inlet / outlet	1/2" / 1/2"	In

Pneumatic system with Consol	Measurement	Units
Min. Pressure	6	Bar
Air consumption	10	Lit/Min
Air accumulator (for safty of the filling shoe)	10	Lit

Main control Board	Measurement	Units
Operating Voltage (3 Ph) / Frequency	380 / 50	V / Hz
Max. Operation Current	25	Amp
Normal Operation Current	10	Amp
Control Voltage	24	V (DC)
Ambient Temp	15-30	C
Overall Protection Class	4	

Operating controlers	Measurement	Units
Solid stat Hard drive	8	GB Flash